CLAIMS

What is claimed is:

1. A photosensor assembly, comprising:

a plurality of sets of lines of photosensors, each set comprising at least a first line and a second line, where photosensors in the first line and the second line have substantially the same pitch, and where photosensors in the first line are offset relative to photosensors in the second line by approximately one-half the pitch, and where the spectral bandwidth of light received by the first line is different than the spectral bandwidth of the light received by the second line.

2. A photosensor assembly as in claim 1, further comprising:

N lines of photosensors, where N is at least six, each photosensor in one of the N lines receiving a different spectral bandwidth of light than photosensors in the other N-1 lines.

3. A photosensor assembly, comprising:

a plurality of sets of lines of photosensors, each set comprising at least a first line and a second line, where photosensors in the first line and the second line have substantially the same photosensor width, and where photosensors in the first line are offset relative to photosensors in the second line by approximately one-half the photosensor width, and where the spectral bandwidth of light received by the first line is different than the spectral bandwidth of the light received by the second line.

4. A photosensor assembly as in claim 3, further comprising:

N lines of photosensors, where N is at least six, each photosensor in one of the N lines receiving a different spectral bandwidth of light than photosensors in the other N-1 lines.

5. A photosensor assembly, comprising:

N first lines of photosensors having a first size;

M second lines of photosensors having a second size;

where M and N are both greater than one;

where the second size is different than the first size;

where, within each line of photosensors, essentially all photosensors receive the same spectral bandwidth of light; and

where at least M+N different spectral bandwidths of light are received.

6. A method of scanning, comprising:

scanning an area with N photosensors, where N is even and at least six, where each photosensor has a corresponding photosensor that is spatially offset by substantially one-half a pitch of the photosensors, and where each of the photosensors receives a different spectral bandwidth of light;

obtaining M bits of intensity data from each photosensor; and

combining the intensity data to obtain M times N bits of intensity data for the area.

7. The method of claim 6, further comprising:

using a transformation matrix to reduce the M times N bits of intensity data to M times N/2 bits of intensity data.

8. A method of scanning, comprising:

scanning an area with N photosensors, where N is even and at least six, where some the photosensors are a first size and the remaining photosensors are a second size, and the first and second sizes are different, and where each of the photosensors receives a different spectral bandwidth of light;

obtaining M bits of intensity data from each photosensor; and

combining the intensity data to obtain M times N bits of intensity data for the area.

9. The method of claim 8, further comprising:

using a transformation matrix to reduce the M times N bits of intensity data to M times N/2 bits of intensity data.